
Reappraisal of Subtribe Vargasiellinae (Maxillarieae, Orchidaceae)

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ABSTRACT. Subtribe Vargasiellinae, proposed by C. Schweinfurth in 1952, is here validated. It is placed in tribe Maxillarieae, rather than in the Malaxideae, as originally proposed by Schweinfurth, based on new findings on the pollinarium structure of *Vargasiella peruviana* C. Schweinfurth.

Schweinfurth described *Vargasiella* in 1952 from two Peruvian specimens collected by C. Vargas. The morphology of the inflorescence and pollinarium puzzled the author; the absence of complete pollinaria in the specimens he examined led him to believe *Vargasiella* was close to subtribe Liparideae (in Schlechter's old system, referred to tribe Malaxideae Lindley in Dressler, 1990: 217). However, based on leaf and flower characters, Schweinfurth (1952: 152) suggested subtribal status for *Vargasiella*, but failed to validly publish the taxon.

Schweinfurth (1958: 219) described a second species from the Venezuelan Guayana; the flowers he had available did not have complete pollinaria. *Vargasiella venezuelana* was collected a second time by G. C. K. Dunsterville (Dunsterville & Garay, 1965: 326; Dunsterville & Dunsterville, 1982: 37), but this material and his subsequently published drawing (Dunsterville & Garay, 1965: 326–327; 1979: 1037) did not present critical details of the pollinarium.

Dressler (1990: 249) suggested the placement of *Vargasiella* in subtribe Zygopetalinae: "The Andean *Vargasiella* has been described as having naked pollinia, but the pollinia appear to be superposed, and I suspect that it is closer to this group" (i.e., subtribe Zygopetalinae). However, examination of recently collected specimens of *Vargasiella peruviana* indicate the pollinarium has four plano-convex pollinia, a short stipe, and a hooked viscidium (Fig. 1). The pollinia do not appear to be superposed and flattened as in *Zygopetalum* and other allied genera. These features, combined with the fact that the labellum does not have any ridges or keels, a diagnostic feature of subtribe Zygopetalinae, indicate

that *Vargasiella*, although closely allied to the Zygopetalinae, merits subtribal status.

Vargasiellinae C. Schweinfurth ex G. Romero & Carnevali, subtrib. nov. TYPE: *Vargasiella* C. Schweinfurth, Bot. Mus. Leaflet 15: 150. 1952.

Herba epiphytica vel terrestris; caulis elongatus, sine pseudobulbis; folia disticha, plicata, articulata; inflorescentia laxa racemosa; labellum simplex, ecallosum; pollinarium viscidio unico, stipite unico, polliniis quatuor, plano-convexis, non-superimpositis.

The authors would like to request live and/or pickled specimens of *Vargasiella* from orchid collectors and growers from Peru and Venezuela. This material is urgently needed to undertake further studies, particularly of cytology, growth habits, and the development of the inflorescence. We hope the examination of additional specimens will shed some light on the placement of this interesting genus within the Maxillarieae.

Specimens examined. *Vargasiella peruviana* C. Schweinfurth. PERU. CUZCO: Prov. Paucartambo, Pilla-huata, 3,400 m, epiphyte in rainforest, floral segments white lined with pink, 11 Dec. 1942, C. Vargas 3010 (AMES); Convención Prov., hills of Pintobamba, in humus forest, 2,400 m, perianth white with pinkish lip, 3–4 Mar. 1943, C. Vargas 3288 (holotype, AMES). PASCO: Oxapampa Prov., Cordillera Yanachaga, road over shoulder of Cerro Pajonal to Villa Rica drainage, 12 km SE of Oxapampa, cloud forest, 2,300–2,500 m, 10°35'S, 75°20'W, "Terrestrial 1 m; stem zig-zag; petioles grooved; bracts green with purple rim; two lower sepals purple outside, whitish inside; upper sepal white with purplish stripe down middle; petals white, lip and undulate margin maroon tongue; stem purple," 9 Oct. 1982, R. B. Foster & D. Smith 9094 (MO); same locality, 14 km E of main Oxapampa–Villa Rica road, lumber road at top of cordillera; stunted cloud forest, 2,450 m, 10°35'S, 75°15'W, terrestrial, flower white, maroon outside and on lip, 2 Mar. 1982, A. Gentry & D. Smith 35984 (MO); border Provincias Oxapampa and Pasco, San Cotardo, in dwarf forest, rich in Ericaceae, bamboo and *Blechnum*, with sphagnum layer below, in swampy places, 2,700 m, terrestrial, flowers white with red, 7 Mar. 1986, H. van der Werff et al. 8508 (MO).

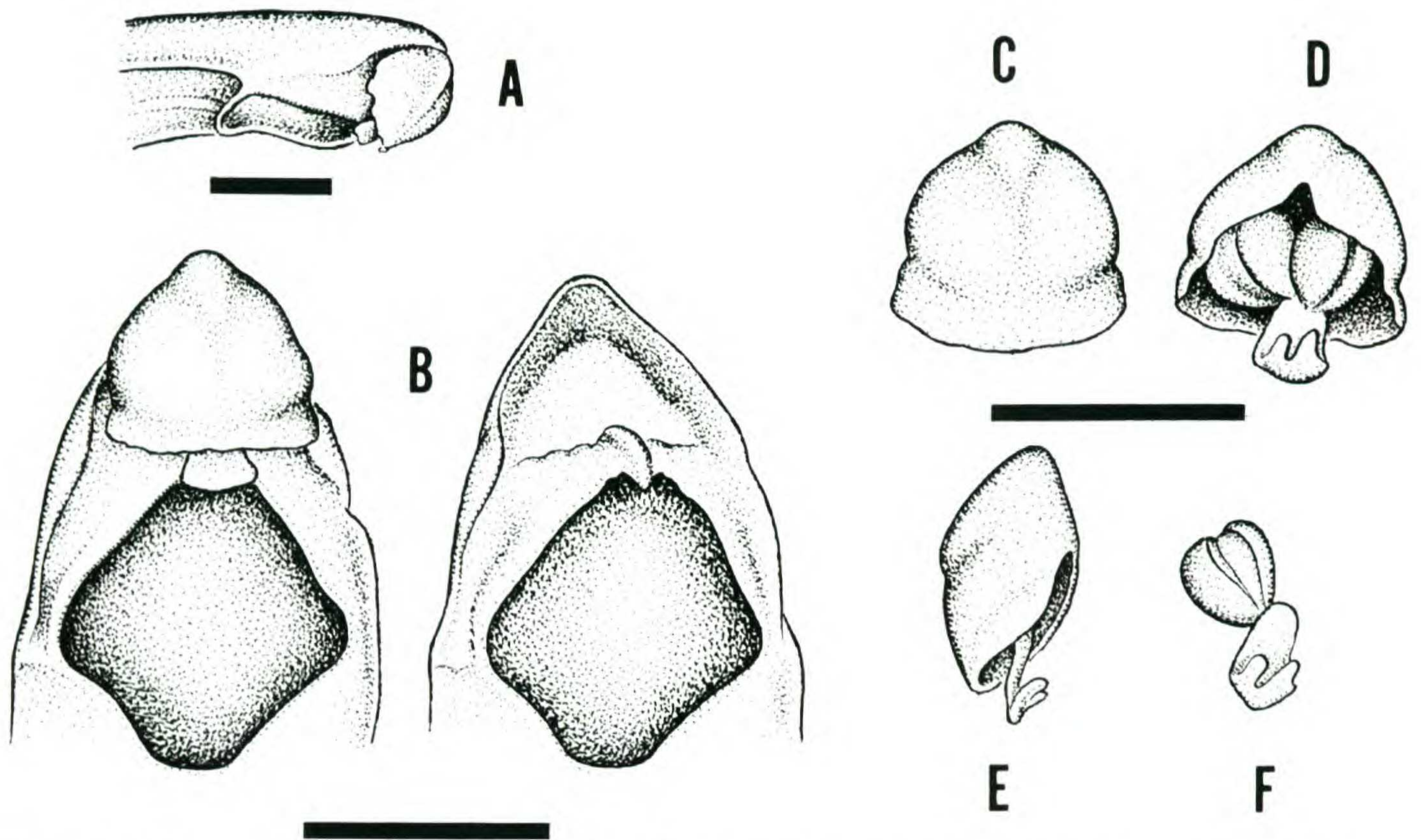


Figure 1. *Vargasiella peruviana* C. Schweinfurth (Foster & Smith 9094). —A, B. Column. —C–E. Anther. —F. Pollinarium. (Scale bars equal 2 mm.)

Vargasiella venezuelana C. Schweinfurth. VENEZUELA. BOLIVAR: Chimantá Massif, NW part of summit of Abácapa-tepui, *Bonnetia* forest, 2,125–2,300 m, terrestrial, inflorescence erect, all parts of flower rich purple, 3 sepals projecting backwards, 2 lateral petals erect, bracts green, peduncle dull lavender, leaves firmly membranous, deep green above, dull green below, 13 Apr. 1953, *J. A. Steyermark* 74914 (holotype, AMES; isotype, AMES); Auyán-tepui, above El Peñon, growing almost completely hidden in low thick brush and grass on steep slope, elevation ca. 6,500 ft., *G. C. K. & E. Dunsterville* 861 (line drawing, AMES).

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Literature Cited

- Dressler, R. L. 1990. *The Orchids*. Harvard Univ. Press, Cambridge, Massachusetts.
- Dunsterville, G. C. K. & L. A. Garay. 1965. *Venezuelan Orchids Illustrated III*. Andre Deutsch, London.
- & ———. 1979. *Venezuelan Orchids, an Illustrated Field Guide*. Harvard Univ. Press, Cambridge, Massachusetts.
- & E. Dunsterville. 1982. Auyán-tepui: Reminiscences of an orchid search. Pp. 19–38 in J. Arditti (editor), *Orchid Biology and Perspectives II*. Cornell Univ. Press, Ithaca, New York.
- Schweinfurth, C. 1952. *Vargasiella*. *Bot. Mus. Leaflet* 15: 150–152.
- . 1958. *Vargasiella venezuelana*. *Bot. Mus. Leaflet* 18: 219–223.